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EXAMINER
EDELMAN, BRADLEY E

ART UNIT	PAPER NUMBER
2153	37

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 08/865,962	Applicant(s) NIELSEN, JAKOB
	Examiner Bradley Edelman	Art Unit 2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *40-65* is/are pending in the application.

4a) Of the above claim(s) *48-52 and 59-65* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *40,41,43-47 and 53-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This action is in response to Applicant's amendment and request for reconsideration filed on May 7, 2003. Claims 40-47 and 53-58 are presented for further examination. Claims 48-52, 59-65 have been withdrawn from consideration as being drawn to a non-elected invention.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 40-47, 53-58, drawn to a system for allocating resources in a server to multiple clients in a computer network, in response to a request received from a user, classified in class 709, subclass 226.

   II. Claim 64, drawn to a standalone computer including a computer program for allocating resources among processes running within the computer, and allocating the resources according to a ratio of priority values, classified in class 709, subclass 104.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the client/server resource

allocation system claimed in group I does not need to use the particular allocation scheme taught by group II, while the standalone computer taught by group II does not need to run on the client/server system taught by group I. The subcombination has separate utility such as resource allocation among tasks in a single computer.

For these reasons, newly amended claim 64 is directed to an invention that is independent or distinct from the invention originally claimed, and restriction is thereby proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 64 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 40, 43, 53, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dan et al. (U.S. Patent No. 5,802,301, hereinafter "Dan"), in view of Hou et al. (U.S. Patent No. 6,324,184, hereinafter "Hou").

In considering claim 40, Dan discloses a computer apparatus for allocating communications bandwidth, comprising:

A computer having a communications interface for sending information over a communication link (col. 4, line 34, "video file server 60"); and

A program running on said server to permit said computer to act as a server (inherent), the program when running, enabling the computer to reallocate bandwidth (col. 4, lines 53-61, "REBALANCING EXISTING LOADS ON DISKS");

The computer reallocating bandwidth in response to a request for data ("NEW REQUEST") from one of the users over the communications interface (col. 4, lines 34-35, 42-47).

However, although Dan teaches that bandwidth is reallocated in response to the user request, Dan does not disclose that the bandwidth *assigned to users* connected to the server over the communications interface is reallocated. Instead, Dan teaches that bandwidth is reallocated among the disks at the server (col. 4, lines 58-61). Nonetheless, reallocating bandwidth assigned to users connected to a server is well known in the art, as evidenced by Hou. In a similar art, Hou also discloses a dynamic bandwidth allocation system for allocating bandwidth to users, wherein the bandwidth allocated to the various users of the system is reallocated in response to certain events within the system (col. 8, lines 41-60, wherein "the central controller adjusts the bandwidth which is allocated to the subscriber units in the upstream transmission path at the end of each control interval"). Thus, given the teaching of Hou, a person having ordinary skill in the art would have readily recognized the desirability and advantages of reallocating the bandwidth among the *users* as taught by Hou, rather than or in addition to reallocating the bandwidth among disks at the server in the system taught by Dan, so

that bandwidth allocated to specific users could be distributed according to the current user demands (see Hou, col. 1, lines 53-56). Therefore, in the system taught by Dan, it would have been obvious to reallocate bandwidth among the users upon receiving a user request for information.

In considering claim 43, Dan further discloses that the reallocation of bandwidth occurs in response to reception of a GET request over the communication interface (col. 4, lines 42-43, wherein the request is to access information in the server).

In considering claim 53, Dan discloses a method for allocating communications bandwidth across a communications interface of a computer, comprising the steps of:

Providing information to a plurality of users connected to the computer across the communications interface (col. 4, lines 34-35);

Receiving a requests for data from one of the plurality of users over the communications interface (col. 4, lines 41-43, "NEW REQUEST"); and

Reallocating bandwidth based on the request (col. 4, lines 53-61, "REBALANCING EXISTING LOADS ON DISKS").

However, although Dan teaches that bandwidth is reallocated in response to the user request, Dan does not disclose that the bandwidth *assigned to users* connected to the server over the communications interface is reallocated. Instead, Dan teaches that bandwidth is reallocated among the disks at the server (col. 4, lines 58-61). Nonetheless, reallocating bandwidth assigned to users connected to a server is well

known in the art, as evidenced by Hou. In a similar art, Hou also discloses a dynamic bandwidth allocation system for allocating bandwidth to users, wherein the bandwidth allocated to the various users of the system is reallocated in response to certain events within the system (col. 8, lines 41-60, wherein "the central controller adjusts the bandwidth which is allocated to the subscriber units in the upstream transmission path at the end of each control interval"). Thus, given the teaching of Hou, a person having ordinary skill in the art would have readily recognized the desirability and advantages of reallocating the bandwidth among the *users* as taught by Hou, rather than or in addition to reallocating the bandwidth among disks at the server in the system taught by Dan, so that bandwidth allocated to specific users could be distributed according to the current user demands (see Hou, col. 1, lines 53-56). Therefore, in the system taught by Dan, it would have been obvious to reallocate bandwidth among the users upon receiving a user request for information.

In considering claim 58, Dan further teaches that the bandwidth is reallocated dynamically (the sections cited above – col. 4, lines 34-61 – describe a dynamic process).

3. Claims 41, 44-47, and 54-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dan, in view of Hou, and further in view of Astle et al. (U.S. Patent No. 6,396,816, hereinafter "Astle").

In considering claims 41 and 54, although the system taught by Dan and Hou teaches substantial features of the claimed invention, it fails to disclose that bandwidth is allocated to users based on the number of users and on the types of data each is requesting. Nonetheless, such allocation in a client/server environment is well known, as evidenced by Astle. In a similar art, Astle discloses a bandwidth allocation system in a network, wherein bandwidth is allocated to system users according to both data type and a number of users (col. 7, lines 5-11, 20-26, wherein bandwidth is allocated according to "information type," and on "priority" according to the information type, - i.e. "bandwidth is allocated based on priority, namely in the following order: audio, control data and video;" and wherein bandwidth is also allocated based on the number of users – i.e. dividing the remaining bandwidth "evenly among the terminals" requires the knowledge of the number of terminals requesting data). Thus, given the teaching of Astle, a person having ordinary skill in the art would have readily recognized the desirability and advantages of allocating the bandwidth taught by Dan and Hou according to the number of users and the types of data requested to more efficiently allocate available bandwidth to better support real-time, interactive communications (see Astle, col. 2, lines 28-30). Therefore, it would have been obvious to allocate bandwidth in the system taught by Dan and Hou in the prioritized-type, user-number-based manner taught by Astle.

In considering claims 44 and 56, Astle further discloses that each type of data has an associated priority (col. 7, lines 7-11, "the remaining bandwidth is allocated based on priority, namely in the following order: audio, control data and video").

In considering claims 45 and 46, Dan further discloses detecting when a user is unable to receive information at a rate allocated to that user, and as a result, excluding that user from reallocation of available bandwidth (col. 5, lines 5-24, wherein if there is not enough bandwidth available to service the user's request, the user request is rejected and the user is excluded from obtaining reallocated bandwidth).

In considering claim 47, Dan further teaches that the bandwidth is reallocated dynamically (the sections cited above – col. 4, lines 34-61 – describe a dynamic process).

In considering claim 55, Dan further teaches that the reallocation occurs in response to the occurrence of an event (i.e. data request, col. 4, lines 41-44).

In considering claim 57, Dan further discloses detecting when a process is unable to receive information at a rate allocated to that process, and as a result, excluding that process from reallocation of available bandwidth (col. 5, lines 5-24, wherein if there is not enough bandwidth available to service the user's request to

process information, the user request is rejected and the process is thus excluded from obtaining reallocated bandwidth).

Response to Arguments

Applicant's arguments regarding the Lee reference and the Milito reference are considered moot, in view of new grounds of rejection necessitated by the amendments.

In response to Applicant's arguments regarding the Astle reference, Applicant contends that Astle "does not teach or suggest that 'each type of data has an associated priority,' as recited in claim 44." Examiner respectfully disagrees with this argument. Column 7, lines 7-11 of the Astle reference clearly states that bandwidth allocation may depend on the type of data requested, and that different types of data may have different priorities: "the resource allocation device allocates a minimum amount of bandwidth to each information type and the remaining bandwidth is allocated based on priority, namely in the following order: audio, control data and video." Therefore, Astle does in fact teach the claimed feature that each type of data has an associated priority.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley Edelman whose telephone number is (703) 306-3041. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on (703) 305-4792. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

For all After Final papers: (703) 746-7238.

For all other correspondences: (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

BE
July 21, 2003

Dung C. Dinh
Primary Examiner